

Application Number 10/639,055  
Amendment dated September 23, 2005  
Response to Office action of July 25, 2005

**Amendments to the Specification:**

Please replace paragraph [0027] with the following amended paragraph:

[0027] Electrodes 1 and 5 have nanoscale roughness that prevents them from being brought into sufficiently close contact to allow tunnelling. In one embodiment ~~heat~~, the electrodes are moved apart, the housing is evacuated, and heat is applied to the assembly shown in Figure 5 via thermal interfaces 30 and 35.

Please replace paragraph [0031] with the following amended paragraph:

[0031] In another further embodiment, the environment comprises the operating conditions for the device, whereby a voltage bias is applied between the electrodes and/or a temperature differential is applied between them, thus operating the device as a gap diode. The gap diode may be, for example, a thermo-tunneling gap diode, a thermionic gap diode or a gap diode heat pump. This 'burn-in' process involves operating the device, either with a fixed diode spacing, or with a variable one (~~whilst the latter is preferable~~~~would be better~~, the former ~~is~~ cheaper).